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Comparison of Architects' and Non-Architects' Perception of Place

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Abstract

There are different approaches in Evaluating and interpreting architectural spaces, as there are many disagreements in the perception of individuals from them. The present research benefits from Osgood's semantic differential technique (1957), and the definition of the bipolar characteristics is based on Ittelson's model (1978).In order to achieve the desired results, two intercity bus terminals of Isfahan are chosen. The results reveal that there is a significant difference between the ideas of architects and non-architects in connection to the different dimensions of the area, including "cognitive"; "emotional"; "interpretive" and "appreciative". In some cases, a kind of consensus is apparent.

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Keywords: Perception; architecs; non-architects; semantic differential

1. Introduction

Any event is divided into two aspects: one is perceptual, and the other is structural. The fundamental aspect is simple, obvious, and it's recognizable free from social and cultural affiliations. However, the perceptual aspect is not only complicated and non-obvious, but it is ingrained in the cultural relations of every tribe and nation. In the meantime, construction will be meant through stepping forward toward the second aspect that is the perception (Dibaj and Soltanzadeh, 1988). From this perspective in the art of building, the designer and idea generator represent a message in the form on one hand, and the supervisor

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decodes the embedded meaning within the work on the other hand. There are differences between the supervisors and the audiences of this work, and the architectures and non-architectures that generate different ways of thinking about and understanding of such work. This study is an attempt to discover these differences between the architectures' and non-architectures' attitude and the effect of their visual knowledge and scholarship on the perception of space.

The discrepancy between the architectures and non-architectures are an old challenge; however, this challenge has been more significant in the contemporary era, due to the increase of various architectural styles and specialization of different fields of architectural design. Many architectures have generated ideas and concepts resulted from their learning and skills and often appreciated by the specialists. The difference between the masses of people and the architectures and designer's beliefs cause many architectural researches not practicable or may result in huge changes during the implementation and operation and ultimately transform the central idea of the project.

Unlike the artists, the designers should design, in a way that is clear and perceptible for the users. To achieve this goal, both architectures and non-architectures must possess the means for decoding the environmental codes apply the means to understand the meaning of such an environmental laws. The central issue in the present research is "identification of the visual criteria for designing the desirable urban spaces based on the subjective evaluation of the area through the architectures' and non-architectures' actual observations." visual perception, from the aspect of subjective presentation of objective reality, is an important component in the process of development of the physical structure of the modern city. The purpose of this study is to form construct objective criteria for designing the useful spaces based on the subjective evaluation of the area, through the observation of four pictures of two terminals named Soffe and Kaveh located in Isfahan.

The purpose of this study is to explain the effect of visual literacy on individuals' perception of space and to achieve the criteria that will assist designers how to design buildings in agreement with non-architects. Therefore, according to factors affecting the perception, two groups of architects and non-architects were compared and studied at this study. The results of this study can be implemented for determination of the objective patterns to improve the existing urban areas and create the useful spaces in the future. The present research benefits from Osgood's semantic differential method (1957), and the definition of the bipolar characteristics is based on Ittelson's model (1978).

2. Literature Review

The scope of this paper is dividable into two main areas. The first is the literature review in the ground of knowledge and the second deals with the investigation of the history of architects' and non-architects' opinion and compare their visual priorities.

2.1. The whatness of perception

Since the early 1960s, the environmental knowledge as an interdisciplinary field of study has been considered and developed from many aspects.

The concept of knowledge includes large dimensions and implications; thus, providing a detailed, comprehensive description of which in not without problems. In the modern psychology, perception is a personal and mental process that is responsible for selecting and organizing the sensory information and finally, give meaning to them in an active manner. In other words, the phenomenon of perception is an individual process through which the sensory experiences become meaningful and in this way, a man finds the relationships and meanings of the objects. This process occurs so fast in the mind of a man that it sounds simultaneously feeling happens. This process involves the sensory experiences, ideas and the

resulting imaginations, the individual's motivation and the situation in which the perception occurs (Iravani; Khodapanahi, 2008).

Human's understanding of the environment is the most central issue in the environmental psychology. The environmental psychology is a persistent process through which, the person selects the required data based on his need. Therefore, the process of perception is persistent and depends on the culture, attitude and the value governing the thought of the perceiver. The process of perception, thus, is always associated with the human cognition. In fact, "environmental knowledge" happens due to the interaction between "visual perception" and "cognition" experienced in the mind of the human (Motallebi, 2001). Perception is the process of gathering information from the human environment, and active and persistent text (Lang, 1987) and returns to the direct responses that our senses show to the structures or forms (Naser, 2011). Any judgment includes two main elements. Object (the perceived or the objective) and subject (perceiver or the subjective), (Grutter, 2006). Further, the personal experience together with the situational evaluation affects the environmental perception. Even the least difference and cognition may affect the human's perception (Gifford, 1997).

In other words, if feeling subordinates the simulations, the perception subordinates the specific stimulation, including former learning and expectations, emotional or cognitive variable motivational states, and ultimate decision making and the will of the perceiver (Motallebi, 2001).

2.2. Factors affecting perception

Many factors involve informing and sometimes, giving a definition of knowledge. These factors, from Robins's (2007) point of view consist of: perceive, object of knowledge and Content of the situation under discussion. The factors affecting perception from Gifford's (1997) approach are personal, cultural and physical factors.

Different schools have attempted to explain how the human sees the space. Most famous schools are categorized as below table:

Table 1. Schools that have had a profound influence on the theories of environmental knowledge

Schools	Theorists	Intellectual basis
Gestalt Psychology	Kohler (1938) Wertheimer (1938) Koffka (1935) Arnheim(1960)	Perception and problem solving processes is the mostly considered by the Gestalt psychologist. They believed that perception is not a combination which is not constituted by elements that are consecutively integrated as meaningful concepts in the mind, but perception was known as a coherent whole consisted of a board or Gestalt.
Adaptive Psychology	Ittelson (1960)	They consider human's environmental experiences and the mutual communication between human and his environment as a basis and study the perception as such a adaptive process between observer and the environment.
Ecological psychology (Optical)	Gibson (1966)	Gibson set environment as the foundation of all data. He believed that environment data are received directly without the need for processing power in the human brain, through the "environmental lights" and human senses, acting as a "system".

2.3. Differences between perception and evaluation of location (architects versus non-architects)

Researches reveal there is a gap between what the designers find desirable and what people like (Delvin & Naser, 2010). Lack of agreement between professional designers and the public has become a major crisis for many huge projects in which the client differs from the user and designer has very little contact with the users (Naser, 1994).

One of the factors affecting the perception is personal factors (Gifford, 1997), including education, gender, training and experience. Like the different perception between men and women, Bentley recognizes the difference in the environmental experiences of different groups in comparison to each other, and the difference in goals of different groups in comparison to each other, due to the difference in their interpretation of the place (Bentley et al., 2008). Ordinary people on the streets and markets do not concern about the psychological needs as much the architects and others attribute them (Arnheim, 1977).

Another significant difference is based on education and training. It seems that along with a principled knowledge, we learn the way of observing that is the characteristics of our job. Therefore, researchers adopted a particular method about the perceptions so that they demonstrate the architects' perceptions differ from the others. As a result, a special education is also an essential personal difference in the environmental perception (Gifford, 1997).

Despite this necessary information, the designers and planners may avoid the inappropriate specialized decisions and recognize the better options for the residents (Sanoff, 2000).

3. Theoretical Framework

Our experience of space in our lives is the product of complex relationships between different areas. To organize and establish a connection between the areas and to achieve a theoretical framework for conducting this research, the researcher benefited Ittelson's (1978) view as a theoretical basis. Ittelson (1978) has identified four different dimensions of knowledge and believes that these four dimensions simultaneously act (Carmona et al, 2003):

- Cognitive aspect: means thinking about the environmental stimulus, organization and storage.
- Emotional aspect: involves feelings concerning the individual's environmental perception, and in contrast, the knowledge of the environment affects the individual's feelings.
- Interpretive aspect: The interpretive perspective relies on individual's accumulated memories for comparison and analysis of the environmental stimuli.
- Appreciative aspect: involves values and priorities that make up good and bad.

4. Methodology

This study is using the combined solutions (Groat & Wang, 2010), and it is an applied research and attempts to improve the quality of the visual environment; in terms of the manner of data collection, it is an applied descriptive, and in terms of date, it is qualitative. The goal of this study measures the persons' perceptual idea of space as well as studying the perceptual differences between the architects and non-architects. The area of this study is Isfahan, and the selected spaces are Soffe terminal and Kaveh terminal in this city. The reason to choose the terminal is its open space, and it is familiar to many people and is used by them. The reason to choose Soffe and Kaveh terminals, particularly, is that they both function the same, but in terms of the spatial structure and visual elements concerned the present study is to be different. Therefore, having been compared these two terminals from the standpoint of architects and non-architects; it is possible to achieve the desirable results.

The audience-oriented method, used in this study includes the semantic differential meaning technique originated by Osgood. The semantic differential method is an explanatory approach, including a theoretical level and practical level, which should be observed through the project. (Naghibalsadat, 2012). In the theoretical level of subject of argument, the definition and support of the research are considered by the literature and theory of research. In the practical level, the objective and empirical aspects are taken into consideration, that is, what the methodology of the project is. The present study connects these two

levels in two ways; one is a process cross through the theoretical level to the practical level, and the other is analysis method, which is one of the techniques used to analyze the findings (Naghibalsadat, 2012).

Osgood believed that people use a model named signification triangle to see the concept. The concept is on the head of the pyramid or triangle while evidence is on one side of the pyramid and characteristics are on the on the side.

To achieve the best result, it is necessary to define three elements:

- The concept that is evaluated in compliance with the semantic and attitudinal features; in this study, the evaluation of perceptual attitudes of the architects and non-architects is taken into account;
- The definition of bipolar or opposing pairs of components that constitute the basis of scale; in this research, in order to define the characteristics pairs, the researcher benefited from Ittelson's model that put the knowledge as a basis in four areas. Based on these four areas, the implemented characteristics pairs were identified in the survey of the study (Fig. 1)
- A set of defined scaling units, which options are not less than five levels and more than seven levels for practical purposes. For the present analysis, it is considered seven levels, from -3 to 3 (Table 2), (Naghibalsadat, 2012).

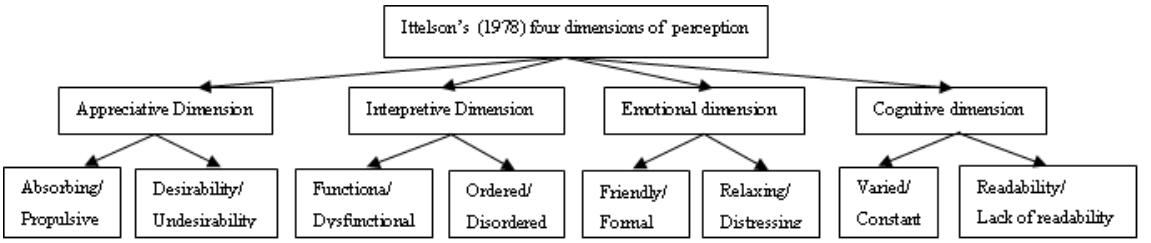


Fig.1. Based on the Ittelson's (1978) four dimensions of perception, the features can be divided as follows

5. Research Procedure

The present research is conducted in three phases: the first phase, after determining the recognized concept, and regarding the theoretical framework, the values of the research will be determined as fighting bipolar characteristics on a seven-level scale so that to measure the supposed concept, which is the perception. In the second phase, a questionnaire including the views of the supposed area is planned, and two statistical societies are asked to record their reaction on each scale. Gathering the data and inputting them in SPSS software in the final phase, comparative analysis of the results. Finally, the difference in architects' and non-architects' attitude and their point of view towards the area resulted from this study, shall be implemented as guidelines to design the desirable urban spaces in the future.

5.1. The questionnaire and its reliability

The questionnaire includes eight questions and four pictures, consist of two images of indoor and outdoor spaces of Kaveh Terminal, and 2 pictures of indoor and outdoor spaces of Soffe terminal were given to each participant. They were asked to give a score ranging from 3 to -3 (Table 2) to each 4 area as the mark of their perception of each space. The content of questions shall be divided based on Ittelson's (1978) four-dimension of perception as follows:

Table 2. Scale of sematic differential

Lack of readability	-3	-2	-1	0	1	2	3	Readability
Constant	-3	-2	-1	0	1	2	3	Varied
Distressing	-3	-2	-1	0	1	2	3	Relaxing
Friendly	-3	-2	-1	0	1	2	3	Formal
Disordered	-3	-2	-1	0	1	2	3	Ordered
functional	-3	-2	-1	0	1	2	3	Dysfunctional
Undesirability	-3	-2	-1	0	1	2	3	Desirability
Propulsive	-3	-2	-1	0	1	2	3	Absorbing

6. Findings

The mathematical society of research is 100 people, consist of 50 architects, familiar with the visual experience and 50 non-architects, not educated in the field of visual knowledge. This selection may assist to observe the impact of visual literacy in replied. After the questioned people had given a point to the pictures of areas at this research, the scores were collected, and researcher received the average position of the marks allocated to any pictures distributed to each group of participants and set the average points in the table. Then, the priority of the areas and groups was determined in accordance to the average position of the scores, and the data were described and analyzed.

6.1. photo 1: Kaveh terminal – outside space (Fig. 2a)

The designers after seeing the pictures of the outdoor Kaveh terminal, found and evaluated this space, in comparison to the non-architects more “varied”; “distressing”; “formal”; “functional”; “undesirable” and “absorbing”.

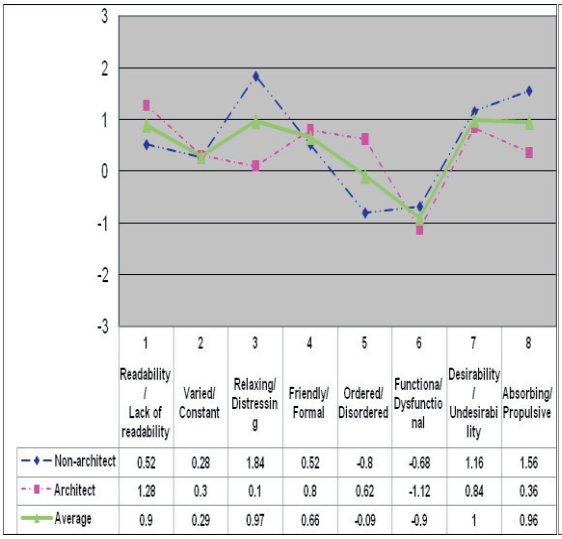
While, the non-architects have ordered evaluated the space more “constant”; “relaxing”; “friendly”; “disordered”; “dysfunctional”; “desirable” and “propulsive”. The results of T test show that there is a significant difference between the average point grade of the designers and non- architects in connection to the different dimensions of their space perception. Having been compared the average point grades in various aspects, it can be seen that the architects in the cognitive dimension received the average point grade of 1.77 stands on a higher position, in contrast to the non-architects, obtained the average point grade of 1.14; in the emotional dimension, the non-architects made the average point grade of 0.79 in comparison to the architects who achieved the rank of 0.28. Therefore, the non-architects reached the higher points. Further, in interpretive and appreciative dimensions, the architects won the rank of 0.320, and the non-architects reached the grade of 1.01, respectively ($p\text{-value}<0.05$). Therefore, it seems that the architects familiarity with the visual literacy, make them have a more rational view about the visual elements existing in the space; but, lack of such familiarity, mostly lead the non-architects to the established relationship between the desirable quality and emotional communication with the space.

Fig. 2. (a) photo 1: Kaveh terminal - outside space; (b) photo 2: Keveh terminal- inside space

Fig. 3. Soffe terminal – outside space (Fig. 3a)

The architects after seeing the pictures of the outdoor Soffe terminal, found and evaluated this space, in comparison to the non-architects more “pleasant”; “constant”; “distressing”; “formal”; “ordered”; “functional”; “undesirable” and “propulsive”.

While, the non-architects have evaluated the space more “varied”; “relaxing”; “friendly”; “disordered”; “dysfunctional”; “desirable” and “absorbing”. The results of T test show that there is a significant difference between the average point grade of the designers and non- architects in connection to the different dimensions of their space perception. Having been compared the average point grades in various aspects, it can be seen that the architects in the cognitive dimension received the average point grade of 1.41 stands on a higher position, in contrast to the non-architects, obtained the average point grade of 0.61; in the emotional dimension, the non-architects made the average point grade of 1.25 in comparison to the architects who achieved the rank of 0.50. Therefore, the non-architects reached the more points. Further, in interpretive and appreciative dimensions, the architects own the grade of -0.56 and the non-architects reached the level of 0.65, respectively (p-valuehe rank of 0.45. Therefore, the non-architects reached the more points. Further, in interpretive and appreciative dimensions, the architects won the grade of -0.25 and the non-architects reached the level of 1.36, respectively (p-valuethe established relationship between the desirable quality and emotional communication with the space.



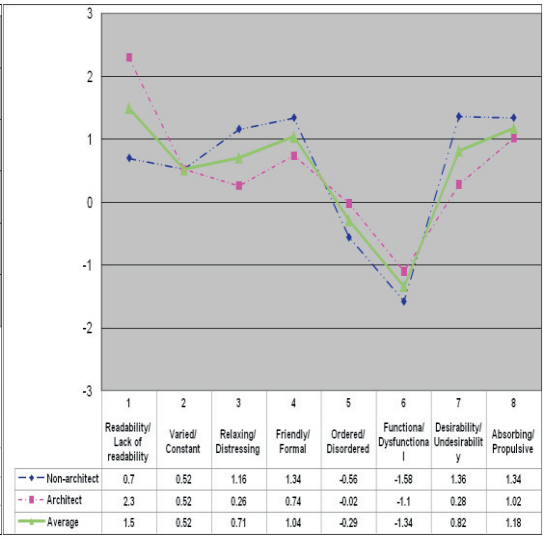


Fig. 3. (a) Photo 3: Soffe terminal – outside space; (b) photo 4: Soffe terminal – inside space

7. Summaries

The comparison between the grades for each concept in the semantic difference analysis related to the architects' and non-architects' perception was presented in Table 3. Having been compared the architects' and non-architects' classes related to Kaveh and Soffe terminals, it can be summarized that the outdoor spaces of Kaveh terminal among the four studied spaces is more enjoyable (received the rank of 2.56), relaxing (obtained the grade of 2.18), ordered (received the grade of 2.24), functional (obtained the grade of -1.60). Two indoor and outdoor spaces of Kaveh terminal have been evaluated by the participants, more friendly, achieving the average point grade of (-.60), in comparison to other areas. Further, the outdoor space of Soffe terminal (achieved the rank of 0.36) was identified the most absorbing area among four areas examined in this study.

Table 3. The comparison between types of architects and non-architects

Space	Participant	Cognitive dimension		Emotional dimension		Interpretive Dimension		Appreciative Dimension	
		Readability/ Lack of readability	Varied/ Constant	Relaxing/ Distressing	Friendly/ Formal	Ordered/ Disordered	Functional/ Dysfunctional	Desirability/ Undesirability	Absorbing/ Propulsive
Kaveh-Outdoor	Non-architect	1.34	0.94	2.18	-0.60	0.56	-1.18	0.96	1.06
	Architect	2.56	0	1.06	-0.50	2.24	-1.60	-1.50	1.22
Kaveh-Indoor	Non-architect	0.70	-0.52	2.00	-0.60	0.82	-0.84	1.76	1.32
	Architect	2.16	-1.00	0.26	-0.50	1.90	-0.60	1.12	0.74
Soffe-Outdoor	Non-architect	0.52	0.28	1.84	0.52	-0.80	-0.68	1.16	1.56
	Architect	1.28	0.30	0.10	0.80	0.62	-1.12	0.84	0.36
Soffe-Indoor	Non-architect	0.70	0.52	1.16	1.34	-0.56	-1.58	1.36	1.34
	Architect	2.30	0.52	0.26	0.74	-0.02	-1.10	0.28	1.02

8. Conclusion

The results of this study reveal that there is a significant difference between the ideas of two groups of architects and non-architects in connection to the different dimensions of the area, including “cognitive”; “emotional”; “interpretive” and “appreciative”. In this connection, the evaluation of architects in cognitive and interpretive dimensions and evaluation of the non-architects in emotional and appreciative dimensions were categorized. It is necessary to mention that in some cases, a kind of consensus is apparent.

According to the quantitative results of the classes, it can be concluded that the degree of visual literacy has a direct relation to the individuals’ perception of space. This comparison reveals that the architects and those who are visually literate, in order to give point to the features that are subcategories of emotional and appreciative dimensions, are more strict; also, the effect of non-architects’ lack of visual literacy can be observed through giving the points. The non-architects have allocated to the characteristics, which are subcategories of the cognitive and interpretive dimensions, the grade of zero that is indicative of indifference and lack of understanding the images, or in comparison to the architects have more strictly given point to the features of these two dimensions.

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